

The Impact of Counseling Program on the Self-Efficacy of Mothers to Promote Lifestyle of their Children with Wilms' Tumor

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Abstract:

Children with Wilms' tumor facing many problems resulting from the disease, and its treatment. Counseling mothers of children with Wilms' tumor can enhance mother's self-efficacy to manage their children's problems and promote healthy lifestyle practices. **Aim:** The study aimed to evaluate the impact of counseling program on the self-efficacy of mothers to promote lifestyle of their children with Wilms' tumor. **Methods:** A quasi-experimental research design was utilized. **Setting:** This study was conducted at Oncology Outpatient Clinics in the Children's Hospital affiliated to Ain Shams University hospitals. **Subjects:** Purposive sampling was employed, which selected 60 mothers and their children from 3 to 8 years old. **Tools:** **Tool (I):** A structured interviewing questionnaire, composed of three parts: **Part (1):** Personal characteristics of mothers and their children. **Part (2):** Family history of disease regarding Wilms' tumors. **Part (3):** Knowledge of the mothers about Wilms' tumors. **Tool (II):** Lifestyle Assessment Questionnaire: It highlighted children's adherence with medication and therapeutic regimens, stress management, and sleep quality. **Tool (III):** Self-Efficacy Scale. **Results:** There was highly significant improvement regarding mothers knowledge, self-efficacy and their children's lifestyle practices post implementation of the counseling program with $P=0.000$. **Conclusion:** Implementation of the counseling program was effective in enhancing mothers' knowledge and self-efficacy related to Wilms' tumors as well as their children's lifestyle practices. **Recommendation:** Providing a continuous program in hospitals for mothers who have children with Wilms' tumors to keep them informed of health education about the care of their children.

Keywords: *Counseling, Lifestyle, Self-efficacy & Wilms' Tumor.*

Introduction:

Wilms' Tumor (WT), often known as nephroblastoma, is the most prevalent primary kidney cancer in children. It is the excessive growth of certain cells in one or both kidneys. It usually affects young children between the ages of three and four. Ninety percent of pediatric kidney malignancies (representing six percent of pediatric cancers globally) are caused by Wilms' tumors (Frank et al., 2021). In the US, there are between 500 and 600 new cases of Wilms' tumor diagnosed annually.

Wilms' tumor is thought to be caused by genetic changes related to normal genitourinary tract development during embryonic development, although the exact cause is unknown. About 5 to 10% of children have bilateral Wilms' tumors, while most cases are unilateral. Abdominal swelling and pain, fever, hematuria, loss of appetite, weight loss, and constipation are all signs of Wilms' tumor (Monneraye et al., 2019). Wilms' tumor has five stages; stages I and II denote localized illness that hasn't spread outside the kidney (Jain et al., 2021). The most concerning complications are those caused by Wilms' tumor include spreading to the brain, liver,

lymph nodes, lungs, bones, heart failure, and secondary cancer (Islam et al., 2018).

Treatment of Wilms' tumor usually involves surgery and chemotherapy. It also includes radiation therapy, stem cell transplants, and targeted therapy (Howlader et al., 2021 & Xie et al., 2019). Care for children diagnosed with Wilms' tumor does not end when active treatment has finished. Children with Wilms' tumor continue to follow up to ensure it has not come back, manage the effects of the disease, and monitor child's overall health.

Wilms' tumor has extensive consequences on the children and their mothers which can affect mother's self-efficacy and their abilities to provide care for their children during their first developmental years, they are faced with a serious health condition that usually implies extensive treatment with risk of negative long-term consequences (Long, 2018). Counseling mothers having children with Wilms' tumor helping them improve their attitudes, actions, and customs. Counseling is an approach by which a professional nurse helps a person in a particular circumstance. In a counseling session, two people participate: the one seeking assistance and the person

receiving professional nursing care who helps solve difficulties, and enhance self-efficacy (UK Essays, 2018).

Mothers are the primary nurturers and learners of their children. They pay full attention to their children's needs and feelings, provide adequate nutrition and preventive and corrective health care, develop habits to maintain cleanliness, and encourage children to get proper rest time and outdoor activities. Mothers' self-efficacy has a big impact on their children's healthy lifestyle practices (Mohamed et al., 2022). Self-efficacy theory proposes that mothers with higher levels of self-efficacy will have a greater level of success in completing caregiving tasks, lower levels of psychological and physical illness, decrease rates of burnout, and better levels of wellbeing than those with low levels of self-efficacy (Levesque, 2018).

Self-efficacy refers to mothers' perceptions of their own abilities to exert control over circumstances that impact their life (Fida et al., 2018). It is the confidence in one's ability to perform a specific behavior or task. Mothers who feel more self-efficacy in treating their children's illnesses can develop positive outcome expectations and improved physical capacities and consequently their children lifestyle

Pediatric and community nurses have crucial role in caring for children by preparing the children and their families for diagnostic and therapeutic procedures throughout the treatment, follow up, and rehabilitation. The nurses help children and their mothers to regain control over many aspects of their lives, maintain their maximum level of independence, and provide support the child and their families in minimizing the effects of the illness, promoting their lifestyle practices, and ensure healthy developmental life (Hockenberry & Wilson, 2015).

Significance of the study:

Wilms' tumor is the most prevalent malignancy of the kidney and abdomen within the pediatric age group and ranks fourth overall in pediatric cancer cases, around 90% of pediatric cancers worldwide are Wilms' tumor (Ali & Ajil, 2021). Around 200 children in Egypt are diagnosed with Wilms' tumor annually, while 120 children receive the same diagnosis at Children Cancer Hospital Egypt 57357 (National Cancer Registry Program of Egypt, 2017).

Wilms' tumor mostly affects young children and can have an impact on their growth and development. It usually affects children younger than five years old. Mothers are the primary nurturers of their children's home environment, like dietary patterns, exercise routines, sleep patterns, medication compliance, and

follow-up. They must be provided with knowledge and practices that improve their self-efficacy and competencies to assist their children in promoting healthy lifestyle practices as early as possible in their lives and detect the illness early on, consequently, the better the prognosis will be for the afflicted youngsters in terms of disease control and disease-free survival in addition to reduced treatment-induced morbidity (Morgan & Young, 2017). For these reasons, the current study aimed to assess the impact of a counseling program on the self-efficacy of mothers to promote lifestyle of their children with Wilms' tumor.

Aim of the study:

Evaluate the impact of a counselling program on the self-Efficacy of mothers to promote lifestyle of their children with Wilms' tumor.

Research Hypotheses:

1. The mothers' knowledge regarding Wilms' tumor is expected to be improved after the implementation of counseling program.
2. The mothers' self-efficiency in promoting healthy lifestyle practices for their children with Wilms' tumor is expected to be improved after the implementation of counseling program.
3. Healthy lifestyle of children with Wilms' tumor is expected to be enhanced after the implementation of counseling program.

Theoretical framework:

The theory of self-efficacy pertains to an individual's conviction that their activities can lead to a variety of results. The self-efficacy was developed as a subset of social cognitive theory and gained popularity as a unifying theory of human behavior. An individual's objectives, behaviors, and achievements can all be strongly influenced by their self-efficacy beliefs. Strong self-efficacy influences people's activities because they believe they can regularly attain their goals (Barni et al., 2019).

Self-Efficacy improvement including **four steps; first is set goals:** A key element in developing self-efficacy is establishing and attaining realistic goals. Regularly establishing and achieving goals will eventually give persons a new understanding of their potential, as self-efficacy is built on mastery and accomplishment. **Second is maintain perspective:** When attempting to enhance self-efficacy, taking a broad view is frequently beneficial. After a few serious difficulties, persons could begin to doubt their talents, but friends, and family likely feel differently. **Third is manage stress:** Low self-efficacy is often correlated with higher stress levels; managing that stress can be a key strategy for coping and persevering in the face of obstacles. **Finally, celebrate successes:** recognizing the little milestones as significant accomplishments, persons can raise

their self-efficacy and get closer to the objective (Bandura, 1997).

Subject and Method

Technical design:

Research Design: To perform the study, a quasi-experimental design (pre/post) was used. A quasi-experiment is an empirical interventional study that uses non-random assignment to evaluate the causal impact of an intervention on the target population (Gopalan et al., 2020 & Siedlecki, 2020).

Research Setting:

This study was carried out in the children's hospital oncology outpatient clinics, which is affiliated to Ain Shams University. The clinic is located on the fourth floor and contains two beds and six chairs in addition to lots of natural light and good ventilation. This setting was selected especially because it serves a large number of children from different Governorates and multi cultures from rural and urban regions.

Research Subjects:

Sample type and size:

A purposeful sample of sixty mothers and their children of both sex, ages three to eight years (the most common age to follow up in the prior setting), who visited the previously mentioned setting. In order to get a power of 80% and a two-sided significance level of 5%, the study subject was chosen based on specific inclusion criteria, with the assumption that the standard deviation of the differences between pairs would be 2.500 (Rosner, 2016).

$$n = \left(\frac{Z_{1-\alpha/2} + Z_{1-\beta}}{ES} \right)^2$$

Tools of data collection (pre / post): For the study's objectives, three tools were used:

First Tool: A structured interviewing questionnaire: It was divided into the following parts:

Part (I): It focused on the following traits of the research participants (Q1-Q9):

- Characteristics of children with Wilms' tumor include age, gender, rank, education, and place of residence.
- Characteristics of the studied mothers include age, education level, employment status, and monthly income.

Part (II): Family history for Wilms' tumors including whether any family members have malignant tumors present. **Disease history** as duration of the child's illness, problems the child has had related to head, skin, digestive, respiratory, immune, urinary & psychological problems (Q10-Q19).

Part (III): It was concerned with knowledge of the mothers regarding Wilms' tumors include meaning, risk factors, types, signs and symptoms, complications, diagnosis, treatment, goal of chemotherapy and radiotherapy and its complications. Mothers' reactions to typical issues that children with Wilms' tumor face, include (nausea, vomiting, diarrhea, and constipation). It included 12 closed ended questions (Q20-Q32).

Knowledge scoring system:

Mothers' responses were compared to the model key response, with a score of (1) denoting the "correct answer" and (zero) denoting the "incorrect answer." The questionnaire scores were totaled, split, and translated into a percentage accordingly.

Total scoring system divided into:

- Satisfactory knowledge, if score $\geq 60\%$ (≥ 7 scores).
- Unsatisfactory knowledge, if score $< 60\%$ (< 7 scores).

Second Tool: Life Style Assessment Questionnaire: it emphasized three health issues as children's adherence with medication and therapeutic regimen, stress management, and sleep quality.

Adherence with medication and therapeutic regimen: This scale was used to assess adherence of children with medication and therapeutic regimen (diet, physical exercise, and follow up). It included two parts:

Part (I): Morisky Medication Adherence Scale (MMAS): It was adopted from Morisky et al., (2010) to assess children's adherence with medication. It consisted of 8 closed ended questions (Q33-Q41).

Scoring system:

Each of the 8 questions scored as (1) for "No" and (0) for "Yes" with the exception of question five, which was scored as (1) for "Yes" and (0) for "No.", while the last questions was scored as; rarely/never (1), once in a while (0.75), sometimes (0.5), usually (0.25) and always (0).

Total scoring system:

- The total score was divided into:
- Less than 6 scores: (Low adherence).
 - 6-7 scores: (Medium adherence).
 - 8 scores: (High adherence)

Part (II): Adherence with therapeutic regimen questionnaire: This questionnaire was done by the researchers to assess adherence of the children with Diet that included (5) questions, Physical Exercise which composed of (8) questions and Follow up which included (5) questions. The total items of the questionnaire were 18 closed end questions (Q42-Q59).

Scoring system:

Each point of "yes" answers was scored as one score and zero pointed to "No" answers, total scored was collected, divided and converted into percentage according to the answers of the studied children.

Total adherence score of the children was divided into:

- **Adherent** if score $\geq 60\%$ (11 scores).
- **Not adherent** if score $< 60\%$ (11 scores).

Perceived Stress Scale (PSS): to assess the level of stress among the studied children. It was adapted from **Cohen et al., (1983)**. The scale consisted of 10 closed ended questions (Q60-Q70).

Scoring system:

Each question was rated into (5) points ranged from 0-4 scores as follows: Never = zero, almost never =1, sometimes = 2, fairly often= 3 and very often= 4.

All scores of questions were summed up, within categorized as:

- **Low stress level** fell between scores of 0 and 13.
- **Moderate stress level** fell between scores of 14 and 26.
- **High perceived stress level** fell between scores of 27 and 40.

Sleep Quality Scale (SQS): It was adapted from **Yi and Shin, (2006)** and modified by the researcher to evaluate children under study's quality of sleep. This scale evaluated six domains of sleep quality including, **daytime symptoms (7 items)**, **restoration after sleep (5 items)**, **problems initiating sleep (5 items)**, **maintaining sleep (5 items)**, **difficulty waking and sleep satisfaction (6 items)**. It was consisted of 28 closed ended questions for all six domains (Q71-Q99).

Scoring system:

Each question was rated into (4) points ranged from 0-3 scores as follows: few = zero, sometimes =1, often =2, and almost always =3. Scores on items belong to domains 2 and 5 (restoration after sleep and satisfaction with sleep) are reversed before being tallied.

Total scoring system:

- Ranged from 0 to 84, with higher scores indicating more acute sleep problems.

Third Tool: Self-Efficacy Scale (SES): It was adopted from **Boothroyd (1997)** to assess the self-efficacy of mothers having children with Wilms' tumor. The scale was consisted of a list of behaviors and practices that mothers used while trying to get their children to adopt healthy diet, physical activity, stress management, and sleeping with quality behaviors. It assessed to which degree mothers were confident that they can change their children life style. The scale comprises of five subscales: **Behavior management** (six items), **School issues** (four items), **Advocacy** (four items), **Emotional**

support (five items) and **Provider issues** (six items). The total number of items in the scale is 25 closed ended questions (Q100-Q124).

Scoring system:

A score of 1 to 4 was used for each item. The rating responses are 1 (very comfortable), 2 (somewhat comfortable), 3 (slightly comfortable) and 4 (not very comfortable). The response of 'not very comfortable' refers to a low level of perception of mother's self-efficacy. All items on the SES are given in a positive direction so there is no need to reverse individual item responses to calculate the individual subscale of the total scores.

According to **Deker, 2010** who pointed in his study that total scores of mothers' self-efficacy was calculated and classified as:

- $\geq 60\%$ considered satisfactory self-efficacy.
- $< 60\%$ considered unsatisfactory self-efficacy.

Validity and Reliability:

Seven experts- two professors from the community health nursing department and five professors from the pediatric nursing department who were all affiliated to Ain Shams University in Egypt were responsible for achieving face and content validity. For some assertions, the appropriate changes were made, such as eliminating redundant or unnecessary sentences and paraphrasing To maintain the statement's applicability and clarity, as well as statements to cover all aspects of mothers' needs of knowledge, self-efficacy and healthy life style for their children.

The developed tools were tested for reliability by using the Cronbach's alpha to assess reliability of the tools, which the results were as the following:

Tools	Alpha Cronbach
knowledge of the mothers about Wilma's tumors	0.871
Morisky Medication Adherence Scale	0.905
Adherence with therapeutic regimen questionnaire	0.836
Perceived Stress Scale	0.922
Sleep Quality Scale	0.863
Self-Efficacy Scale	0.910

Operational Design:**Preparatory phase:**

The researchers created the tools based on their literature review, with input from experts in pediatric nursing and community health nursing. They put together an educational booklet in simple Arabic language to achieve the needs of the study participants. The guide booklet and research tools underwent evaluations for clarity and content validity by professionals in the field. This process helped to make sure that the study tools and materials were

appropriate, relevant, understandable, and addressed the knowledge gaps identified from the literature review.

Pilot study:

To determine the feasibility and applicability of the study in terms of its tools, setting and time needed, a pilot study was conducted on 10% (6) of the total study sample. These subjects were excluded later from the study subjects, however the results were useful in assessing and modifying the tools.

Administrative design:

To get authorization to carry out the study, the research team duly submitted a formal letter. This letter was jointly issued by the Dean of the Faculty of Nursing, Ain-Shams University directed for administrators of Specialized Out-patient Clinics of the new pediatric hospital affiliated to Ain-Shams University. In the letter, permission was sought to collect the required data, the purpose and the scope of the study were explained to the relevant authorities.

Ethical considerations:

Ethical committee approval was obtained from ethical committee affiliated to Faculty of Nursing, Ain Shams University. All the gathered data was used for research purpose only. During the initial visit, mothers were informed about the purpose and expected outcomes of the study and they were assured that the study is harmless, their participation was voluntary and they have the right to withdraw from the study at any time and without given any reason. Whenever they would be informed by the results of the research. A written consent was obtained from each mother before starting the data collection. They were assured also that anonymity and confidentiality will be guaranteed.

Field Work:

From the beginning of May 2023 to the end of October 2023, a period of six months was used for data collection. The researchers assessed mothers' knowledge, self-efficacy, and their children's lifestyle practices on two days each week (Sunday and Thursday), from 9 a.m. to 2 p.m. via the following phases:

Assessment phase:

Meeting the mothers was the first step. The mothers were introduced to by the researchers, who also explained the nature and purpose of the study as well as the counseling program's content, ensuring that it was designed to enhance their knowledge, self-efficacy, and support their children's healthy lifestyle practices, which included adhering to treatment plans and medication regimens, reducing stress, and improving sleep quality. The mothers of the children with Wilms tumors were contacted individually by

the researchers, and it took an average of twenty to twenty-five minutes for each mother to complete the questionnaire.

Implementation phase:

At this stage, the researchers organized training sessions individually for the studied mothers, it was held immediately after assessment. The implementation of the counseling program was put into place in 4-5 weeks and consisted of 7 sessions-2 for the theoretical portion and 5 for lifestyle practices. Each session lasted 30 to 45 minutes and was designed to increase mothers' self-efficacy and knowledge about how to provide healthy lifestyle choices for their children who have Wilms' tumors.

The researchers directed the counseling program to mothers based on the actual needs assessment. Each session included getting to know the participants, expressing emotions and feelings, exchanging experiences, interacting with others, and learning how to listen intently and organize what the other person wanted to say.

A collaborative approach was used to conduct the counseling program, including a variety of methods such as role playing, vignettes, brain storming, graphics, group discussions, case scenarios, power point presentations, demonstration & re-demonstration, handouts, and video tutorials. The training sessions were guided by the materials of the counseling program that the researchers had developed. Using relevant teaching media, such as data displays, actual tools, posters, and images, was part of the study's execution.

The researchers draw conclusions at the end of each session and solicit participant comments and feedback. Additionally, the researchers review and talk about what they learned from the previous session at the start of each subsequent one. The researchers' method during the sessions was to let the participants express their innermost thoughts and feelings, to listen intently to everything discussed, to maintain control over the session, to encourage participation and constructive criticism as well as the appraisal of achievement, and to either encourage speaking or stop speaking in order to listen without interruption.

Evaluation phase:

Mothers and their children were evaluated pre-intervention to get a baseline assessment before the development of counseling program and one month after the implementation of the program by using the same tools.

Counseling booklet covered the following parts:

In order to improve mothers' self-efficacy and understanding of their children's illness and treatment, the researchers set its objectives and content based on the mothers' needs and deficiencies

as determined by the pre-test results. This can enable the mothers to more effectively and skillfully promote their children's healthy lifestyle (**Kamal et al., 2017 & Children's Cancer Hospital Foundation – Egypt, 2017**).

1st Session: Introduction and overview of Wilms' tumor (meaning, causes, manifestations, complications, and treatment modalities).

2nd Session: Promotion of healthy sleep (create a bed time routine, set a bedtime, implement a screen curfew, get exercise, avoid scary or violent content, nix caffeine, making a sleepy bedroom, and don't sleep with a pet).

3rd Session: Promotion of physical activity (health benefits of physical activity, recommended physical activity, health risks of sedentary behavior, overcoming obstacles to physical activity, and FITT method).

FITT stands for (frequency, intensity, time, and type).

4th Session: Promotion of healthy diet (healthy eating plate, encouraging healthy eating habits, and food limitations).

5th Session: Promotion of stress management (sources of stress, signs of stress, effects of stress, role of mothers in managing child's stress, and seeking psychological support).

6th Session: Promotion of medication Adherence (simple is best for a pediatric drug regimen, personalize the taste and formulation for children, maximizing parent involvement from day one, incorporate the prescribed medicine into a child's daily routine, and address cost and access barriers for mothers).

7th Session: Caring for chemo and radiotherapy complications including (nausea and vomiting, diarrhea, constipation, loss of appetite, fever, oral mucositis, hair loss, and skin dryness).

Results:

Table (1): Distribution of the studied children and their mothers according to demographic characteristics (n=60).

Demographic Characteristics	No.	%
Childs age (Year)		
3<4	8	13.3
4<6	24	40.0
6≤8	28	46.7
Mean ± SD	6.15 ± 1.21	
Gender		
Male	37	61.7
Female	23	38.3
Educational level		
Preschool	15	25.0
Primary education	45	75.0
Ranking among sibling		
First	20	33.3
Second	22	36.7
Third	18	30.0
Residence		
Rural	46	76.7
Urban	14	23.3
Mothers age (Year)		
< 25	11	18.3
25<35	31	51.7
35≤45	18	30.0
Mean ± SD	35.9±4.21	
Educational level		
Illiterate	28	46.7
Preparatory education	11	18.3
Secondary education	3	5.0
High education	18	30.0
Occupation		
Working	10	16.7
Not working	50	83.3

Table (2): Distribution of the studied mothers according to their total knowledge about Wilms' tumors pre and post intervention (after one month) (n=60).

Levels of total knowledge	Pre intervention		Post intervention (after one month)		X ²	p-value
	No.	%	No.	%		
Satisfactory	9	15.0	50	83.3	46.04	0.001**
Unsatisfactory	51	85.0	10	16.7		
Mean ± SD	8.50 ± 3.46		19.06 ± 4.77			

t = Paired t. test.

X²: Chi-square. P: p-value.

**highly significant at p < 0.01.

Table (3): Distribution of the studied children according to their total adherence with medication pre and post intervention (after one month) (n=60).

Levels of total adherence with medication	Pre intervention		Post intervention (after one month)		X ²	p-value
	No.	%	No.	%		
High adherence	15	25.0	49	81.7	38.78	0.001**
Medium adherence	35	58.3	8	13.3		
Low adherence	10	16.7	3	5.0		
Mean ± S. D	6.18±1.44		7.63±0.86		t=6.760	0.001**

t = Paired t. test.

X²: Chi-square. P: p-value.

**highly significant at p < 0.01.

Table (4): Distribution of the studied children according to their total adherence with therapeutic regimen pre and post intervention (after one month) (n=60).

Items	Pre intervention				Post intervention (after one month)				X ²	P-value
	Adherent		Not adherent		Adherent		Not adherent			
	No.	%	No.	%	No.	%	No.	%		
Diet	14	23.3	46	76.7	52	86.7	8	13.3	48.62	0.001**
Physical Exercise	10	16.7	50	83.3	48	80.0	12	20.0	48.18	0.001**
Follow up	26	43.3	34	56.7	54	90.0	6	10.0	29.40	0.001**
Total score	12	20.0	48	80.0	54	90.0	6	10.0	59.39	0.001**
Mean ± S. D	6.70 ± 3.72				15.60 ± 2.59				T=17.75	0.001**

t = Paired t. test.

X²: Chi Square Test.

(**) Highly statistically significant at p < 0.01.

Table (5): Distribution of the studied children according to their level of stress pre and post intervention (after one month) (n=60).

Levels of stress	Pre intervention		Post intervention (after one month)		X ²	p-value
	No.	%	No.	%		
High	32	53.3	7	11.7	48.40	0.001**
Moderate	25	41.7	15	25.0		
Low	3	5.0	38	63.3		
Mean ± S. D	25.51 ± 4.00		1368 ± 5.22		t=18.52	0.001**

t = Paired t. test.

X²: Chi-square. P: p-value.

**highly significant at p < 0.01.

Table (6): Distribution of the studied children according to their sleep quality pre and post intervention (after one month) (n=60).

Items	Pre intervention						Post intervention (after one month)						X ²	P-value
	Good		Average		Poor		Good		Average		Poor			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
Daytime symptoms	2	3.3	32	53.4	26	43.3	38	63.3	15	25.0	7	11.7	51.63	0.001**
Restoration after sleep	2	3.3	46	76.7	12	20.0	42	70.0	16	26.7	2	3.3	47.21	0.001**
Problems initiating sleep	2	3.3	44	73.3	14	23.3	41	68.3	16	26.7	3	5.0	45.66	0.001**
Maintaining sleep	4	6.6	40	66.7	16	26.7	41	68.4	14	23.3	5	8.3	48.30	0.001**
Difficulty waking	5	8.3	38	63.4	17	28.3	43	71.7	12	20.0	5	8.3	39.67	0.001**
Sleep satisfaction	2	3.3	40	66.7	18	30.0	36	60.0	18	30.0	6	10.0	56.07	0.001**
Total score	6	10.0	38	63.3	16	26.7	45	75.0	12	20.0	3	5.0	52.23	0.001**
Mean ± S. D	49.15 ± 11.35						24.26 ± 8.77						T=20.15	0.000**

Table (7): Distribution of the studied mothers according to their self-efficacy pre and post intervention (after one month) (n=60).

Items	Pre intervention						Post intervention (after one month)						X ²	P-value
	High		Moderate		Low		High		Moderate		Low			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
Behavior management	5	8.3	13	21.7	42	70.0	40	66.7	15	25.0	5	8.3	53.07	0.001**
School issues	4	6.7	22	36.7	34	56.7	38	63.3	16	26.7	6	10.0	61.99	0.001**
Advocacy	5	8.3	18	30.0	37	61.7	42	70.0	15	25.0	3	5.0	65.01	0.001**
Emotional support	9	15.0	21	35.0	30	50.0	50	83.3	10	16.7	0	0.0	47.82	0.001**
Provider issues	6	10.0	15	25.0	39	65.0	48	80.0	10	10.7	2	3.3	61.02	0.001**
Total score	7	11.6	13	21.7	40	66.7	46	76.7	12	20.0	2	3.3	63.11	0.001**
Mean ± S. D	40.53 ± 13.04						65.40 ± 11.2						T=12.67	0.001**

t= Paired t. test.

X2: Chi-square. P: p-value.

**highly significant at p < 0.01.

Table (8): Correlation between the studied mothers’ knowledge, self-efficacy and their children’s life style practices pre and post intervention (after one month) (n=60).

Variables		Total adherence with medication		Total adherence with therapeutic regimen		Total stress		Total sleep quality		Total knowledge	
		Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Total adherence with medication	r										
	P										
Total adherence with therapeutic regimen	r	0.491	0.521								
	p	0.001**	0.001**								
Total stress	r	-0.419-	-0.512	-0.430-	-0.500-						
	p	0.000**	0.001**	0.005**	0.001**						
Total sleep quality	r	0.501	0.570	0.481	0.511	- 0.589	- 0.612				
	p	0.001**	0.001**	0.001**	0.001**	0.001**	0.001**				
Total knowledge	r	0.471	0.528	0.500	0.517	-0.392-	-0.409-	0.365	0.425		
	p	0.001**	0.001**	0.001**	0.001**	0.001**	0.001**	0.015*	0.004**		
Total self-efficacy	r	0.445	0.497	0.418	0.493	-0.482-	-0.497-	0.324	0.390	0.508	0.587
	p	0.001**	0.001**	0.005**	0.001**	0.001**	0.001**	0.021*	0.007**	0.001**	0.001**

r= Pearson correlation coefficient test.

* Significant at p < 0.05.

(-) negative correlation.

**highly significant at p < 0.01.

Table (1): Demonstrates that less than half (46.7%) of children, their age was ranged from 7-8 years with mean age was **6.15 ± 1.21** years, more than half (61.7%) of the children throughout study were boys, three quarters of them (75.0% & 76.7%) had primary education and from rural area respectively. In addition, more than half (51.7%) of mothers in the study were aged 25<35 years with a mean age **35.9±4.21**, less than half (46.7%) of them were illiterate, and majority (83.3%) of them not working

Table (2): Illustrates that improvement with highly statistically significant differences was noticed in mothers' total knowledge about Wilms’ tumors between pre and post intervention (P=0.001).

Table (3): Reveals that a statistically significant difference regarding adherence with medication was existed between pre and post intervention with (P=0.001).

Table (4): Shows that a statistically significant improvement regarding adherence with therapeutic regimens were found (diet, physical exercise and follow up) between pre and post intervention (P-value=0.001).

Table (5): Explains that statistically significant improvement was observed regarding level of stress of the studied children between pre and post intervention (P-value=0.001).

Table (6): Reveals that, highly statistically significant improvement were observed regarding all items of sleep quality (day time symptoms, restoration after sleep, problems initiating sleep, maintaining sleep, difficulty waking, and sleep satisfaction) Among children, between pre and post intervention with P=0.001 for each item.

Table (7): Shows that improvement with highly statistically significant was observed concerning all

items of self-efficacy (Behavior management, School issues, Advocacy, Emotional support, and Provider issues) of the studied mothers between pre and post intervention (P-value= 0.001).

Table (8): Demonstrates that there were positive correlation between knowledge, and self-efficacy the studied mothers and their children adherence with medication and correlation regimen, and sleep quality. Also, A negative relationship were observed between the mother's knowledge, self-efficacy and children's stress (P. value < 0.01).

Discussion:

Wilms' tumor is a cancerous tumor that usually starts in the kidney. It is the most common type of kidney cancer in children and adolescents and accounts for 6% of all childhood cancers. Therapies for Wilms' tumor can result in serious complications that affect life style practices of children, thus the nurse has an essential role in empowering mothers to enhance their self-efficacy that allowing them to provide appropriate care for their children with Wilms' tumor (**American Cancer Society, 2020**). The current research was done to evaluate the impact of a counseling program on the self-Efficacy of mothers to promote life style of their children with Wilms' tumor.

The current study's findings showed that the average age of the children under the study was **6.15 ± 1.21** years (**Table 1**). These findings were contrasted to a study done by **Moon et al., (2022)** in America and found that the mean age was found to be 3.8 years. According to the researcher's perspectives, this might be because most of children at follow up for tumor recurrence and late treatment-related complications. The study findings indicated that over 50% of the children in the study were male. That finding was in agreement to Nigerian study **Alakaloko et al., (2022)** who discovered that the majority of the children in the study were males. In the same context the result was disagreed with **Mustafa et al., (2014)** in their study done in Jordan and found that Wilms' tumor was slightly more predominant in females (54.1%).

The results of this study indicated that, with regard to the children's residence, three-quarters of them were lived in rural areas. These findings were contrasted to a study done by **Boztepe & Akyüz, (2019)** in Turkey who found that the most of children lived in urban areas.

The study findings stated that more than half mothers in the study who were 25–35 years old, with a mean age of 35.9±4.21 years and under than half of them were illiterate education (**Table 2**). These findings were as a study conducted by **Deribe et al., (2023)** in Ethiopia and found that the age of mothers was from 25 to 41 years & no formal education. Regarding the

working of mothers, the majority of the mothers in the study were not employed, according to the study's findings. This result was consistent with a Korean study conducted by **Park et al., (2021)** and found the majority of mothers Unemployed.

Regarding mothers' knowledge between the pre and post intervention, the current study showed highly statistically significant improvement, with (p=0.000) (**Table 3**). This result was in the same line with **Ali & Zaid (2021)** who conducted a study in Baghdad and found that the mothers' knowledge related cancer, its consequences, risk factors, symptoms, and the many components of treatment was significantly poor. Furthermore, this result was in line with **Ahmed et al., (2019)** who found in their research in Egypt that over half of parents knew little about cancer definition and less than half of them did not know about its risk factors. In light of these results, the researchers hypothesize that this could be because the mothers under study had a great desire to learn scientific details concerning their child's illness in order to effectively handle their concerns.

As regards adherence of the studied children with medications, the present study's findings revealed that, a statistically improvement was noticed related to children adherence with medication between the pre and post intervention (P=0.000) (**Table 4**). This finding was in accordance with those obtained in a research carried out by **Yelena et al., (2018)** in America and indicated that adherence to maintenance therapy was suboptimal and poorer among patients. In addition, this result was highly supported by **Justine et al., (2022)** in their American study that showed self-reported non-adherence to oral chemotherapy is high among youngsters undergoing acute lymphoblastic leukemia treatment. From the perspective of the researcher, this could be attributed to insufficient contact of mothers with caregivers to address barriers affecting medication adherence which enhance after counselling program.

A statistically significant improvement was observed in the current study regarding adherence of the studied children with physical exercise between the pre and post implementation counseling program with P=0.000 (**Table 5**). This were parallel to the study findings done by **Ji Young et al., (2022)** in Korea and found that physical activity levels were relatively low among participants with some gender disparities. Female participants were less active than male participants. Also, they showed that out of 120 participants, only 6 participants (5%) met the World Health Organization's recommendation for 60 minutes of physical activity per day to promote children and adolescents' health (**WHO, 2022**). From the researchers' perspectives, this could be due to improvement of mothers' knowledge, and self-

efficacy regarding importance of physical activity for better prognosis of child's disease.

The current result stated that there was a statistically significant improvement regarding adherence of the studied children with therapeutic diet between the pre and post implementation counseling program with $P=0.000$. Similar findings were reported in study carried out by **Jennifer et al., (2021)** in Australia and showed that children undergoing cancer treatment eat foods of reasonable amount but poor quality. Most children did not consume enough vegetables (94% of patients), fruit (77%), or milk/alternatives (75%). Nearly half (49%) of children exceeded the recommended total sugar intake, while 65% of patients consumed too much sodium. In addition, this result was in agreement with the Canadian study done by **Mélanie et al., (2023)** who showed an overall increase in the diet quality after a one-year nutritional intervention conducted early after pediatric cancer diagnosis, in which the proportion of patients with moderate and good adherence with diet increased from 14% to 39%.

The study findings revealed that there was a statistically significant improvement were observed regarding level of stress of studied children between the pre and post intervention with $P=0.000$ (**Table 6**). This result was agreed with study done by **Lauri, (2018)** in Canada and reported that children receiving inpatient chemotherapy experienced multiple psychosocial symptoms of moderate or greater severity and duration. According to the researchers point of view, this may be due to the good impacts of the counselling program intervention on increasing the reassurance of children about how to fulfill their needs, providing an appropriate solution for their problem, improved coping, reduced needs, and resulting decrease their stress.

Concerning sleep quality of the studied children, the current study's findings showed a statistically significant improvement was observed regarding all items of sleep quality (day time symptoms, restoration after sleep, problems initiating sleep, maintaining sleep, difficulty waking, and sleep satisfaction) of the studied children between the pre and post intervention with $P=0.000$ (**Table 7**). This result was in the line with the study done by **Gong et al., (2019)** in China, and found improvement in the total satisfaction level about sleep quality after intervention phase. Also, the current finding was agreed with the study done by **Wanich et al., (2019)** in Thailand and declared that nursing care activities had the greatest influence in improving sleep quality ($p<.001$). From the researchers' perspective, this could be attributed to adherence of mothers with therapeutic regimens after program implementation which enhances sleep quality of children.

In terms of the studied mothers' self-efficacy, the current study's findings demonstrated highly statistically significant improvement in overall self-efficacy between the pre and post intervention (P -value= 0.000) (**Table 8**). This finding was consistent with a study conducted in Egypt by **Mohamed et al., (2022)**, who reported that a minority of the participants in the study group showed a high level of self-efficacy. Also, the result was consistent with **Barani et al., (2021)** in their study carried out in Iran and found that in the first and second follow-ups, self-efficacy scores considerably increased (P -value < 0.001) compared to the pre-test. This result contrasted with the study conducted by **Hendrawati et al., (2019)** in Indonesia and found that 57.5 % of the studied sample had a high self-efficacy. From the researcher's perspective, empowering mothers with knowledge and practices about their children disease helped them regain control on the child's condition and their overall lives and subsequently their abilities and self-efficacy.

The current study found a positive correlation between knowledge, and self-efficacy of the studied mothers and their children adherence with medication and therapeutic regimen. Meanwhile, there was a negative correlation between the mother's knowledge, and self-efficacy and their children's stress (P . value < 0.001) (**Table 9**). These results were in agreement with the study conducted by **Chen et al., (2019)** in China and found a positive correlation between self-efficacy and sleep quality. Also, this result was similar with **Mohamed & Mahmoud, (2021)** in Egypt, and detected a positive correlation between total knowledge and self-efficacy. Mothers with more knowledge had higher self-efficacy before, throughout, and one month after educational intervention.

Furthermore, this result is in line with the study conducted by **Berma et al., (2021)** in Egypt and found statistically significant negative correlations between self-efficacy and stressors among the studied children. Meanwhile, these results contradicted the study carried out by **Masoud et al., (2023)** in Egypt and found an inverse correlation between self-efficacy and medication adherence between studied samples. In addition, these results were in contradiction with the study carried out by **Papadacos et al., (2021)**, in Canada and found that, health literacy was not associated with self-efficacy.

Conclusion:

In the light of the study findings and research hypothesis, it can be concluded that, the counselling program was effective in improving the mothers' knowledge and self-efficacy as well as healthy life style of children with Wilms' tumor.

Recommendation:

- Providing a continuous program in hospitals for mothers who have children with Wilms' tumors to keep them informed of health education about the care of their children.
- Empowering mothers by enhancing their confidence in healthcare and parenting roles.
- Providing targeted support can enhance mothers' self-efficacy and contribute to their psychological well-being while navigating the complexities of childhood cancer.
- Reapply this research on a large sample size acquired from different geographical areas in Egypt for generalization.

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